



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,603	02/12/2007	Hiroyuki Yaegashi	1982-0313PUS1	4858
2292 7590 06/10/2010 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER MACCHIAROLO, PETER J				
ART UNIT 2879		PAPER NUMBER		
NOTIFICATION DATE 06/10/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/594,603

**Applicant(s)**

YAEGASHI, HIROYUKI

**Examiner**

PETER J. MACCHIAROLO

**Art Unit**

2879

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-4, 6 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4, 6 and 12-23 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application on 06/02/2010. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.14. Applicant's submission filed on 06/02/2010 has been entered. However, pending claims 2-4, 6 and 12-23 are not allowable as explained below. An action on the RCE follows.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 2, 6, 12 and 14-17 are rejected under 35 U.S.C. 102(a) and 102(e) as being anticipated by Inoue et al. (USPGPUB 20030156239; “Inoue”).**

Regarding claim 2, Inoue discloses at least in figure 6 an organic electroluminescence device, comprising: an anode electrode comprising a first conductive film (44) which is formed on a substrate (100) and has light reflectivity (see paragraph 42), a second conductive film (80) which has light transmittance (see paragraph 66) and is formed (see at least paragraph 57) on the

first conductive film (44) so as to be wider (see at least fig. 6) than the first conductive film (44) and so as to cover (see at least fig. 6) the first conductive film (44), and a third conductive film (42) which is partially formed between the first conductive film (44) and the second conductive film (80) and is electrically connected (see at least paragraph 42 and 57) to each of the first conductive film (44) and the second conductive film (80); an organic electroluminescence layer (88) which is formed on the anode electrode (42, 44 and 80); and a cathode electrode (86) which is formed on the organic electroluminescence layer (88) and has light transmittance (see at least paragraph 66).

Regarding claim 6, Inoue discloses in at least paragraph 50 that the third conductive film (42) comprises Mo.

Regarding claim 12, Inoue discloses at least in figure 6 the first conductive film (44) is partially formed in a luminescence region (not labeled) where the anode electrode (80) and the cathode electrode (86) overlap each other.

Regarding claim 14, Inoue discloses at least in paragraph 42 the first conductive film (44) comprises Al, Ag, Nd, Si, Ti, W, Cu, Nb, Ta, C, or an alloy comprising at least any one of these as a main component.

Regarding claim 15, Inoue discloses at least in paragraph 42 the second conductive film (80) comprises ITO, IZO, or ZnO.

Regarding claim 16, Inoue discloses at least in figure 6 a display apparatus, comprising the organic electroluminescence device of claim 1 in the pixel region.

Regarding claim 17, Inoue discloses at least in figure 6 a switching device (TFT) which is formed on the substrate (100) and controls a driving voltage which is applied to the organic electroluminescence device.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 3 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue.**

Regarding claims 18-22, the structural limitations therein are the same as those recited in claims 1-6 as rejected by Inoue above.

Inoue is silent to a method of fabricating the organic EL display device.

However, one skilled in the art will recognize that manufacturing Inoue's device will comprise Applicant's recited steps of forming. Furthermore, the Examiner hereby takes Official notice that the recited etching and photoresist exposure is well-known in the art. Since only generic method steps and well-known methods are recited, the structure taught by Inoue meets Applicant's method step limitations. The examiner notes that the Official Notice subject matter

on page 8 of the Office Action dated 06/29/2009 is taken to be admitted prior art since Applicant failed to seasonably traverse the assertion of Official Notice (See MPEP § 2144.03).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the OLED of Inoue with the method of claims 18-22, since the method steps are obvious in light of the resultant structure.

**Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue in view of previously cited Murakami et al. (USPGPUB 20040113544; “Murakami’544”).**

Regarding claim 13, Inoue is silent to irregularities being formed on a surface of the substrate.

However, Murakami’544 teaches at least in figure 2 irregularities (uneven surface above 105) are formed on a surface of the substrate (119) which improves overall light emitting efficiency of the device.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Inoue with irregularities being formed on a surface of the substrate to improve the overall light emitting efficiency of the device.

**Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over previously cited Murakami (US 20030127651; Murakami’651).**

Regarding claim 23, Murakami’651 discloses at least in figures 1-6c a manufacturing method for a display apparatus, comprising steps of: forming a switching device (fig. 1; 202) on

a substrate (101); forming a first insulating layer (108) on the substrate (101) on which the switching device (202) is formed; forming a first conductive film (114) having light reflectivity (see at least paragraph 112) on the first insulating layer (108); forming, on the first insulating layer (108) on which the first conductive film (114) is formed, a second insulating layer (109) which has a first aperture part (through hole not labeled) above an electrode (104) of the switching device (202) and comprises a photosensitive resin (see at least paragraph 33) having light transmittance; etching the first insulating layer (108) using the second insulating layer (109) as a mask (see at least paragraphs 108-110) to form a second aperture part (through hole not labeled) which reaches the electrode (104) of the switching device (202); forming, on the second insulating layer (109), an anode electrode (111) which is electrically connected to the electrode (104) of the switching device (202) through the first aperture part (not labeled) and the second aperture part (not labeled), and comprises a second conductive film having light transmittance (see at least paragraph 64); forming an organic electroluminescence layer (120) on the anode electrode (111); and forming a cathode electrode (117) on the organic electroluminescence layer (120).

Murakami'651 discloses in at least paragraph 130 that the cathode material is not limited to being opaque, but does not explicitly disclose the cathode electrode has light transmittance.

However, the Examiner hereby takes official notice that using both anodes and cathodes with light transmittance is well-known in the art. One would arrive at this modification to allow for a double-sided display device. Alternatively, this would allow for a top-emitting light device which would satisfy specific platform requirements. The examiner notes that this same rejection was made on page 11 of the Office Action dated 03/04/2010. Since Applicant failed to

seasonably traverse the assertion of Official Notice, it is hereby taken to be admitted prior art (See MPEP § 2144.03).

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manufacture Murakami'651's cathode with light transmittance to allow for either a top-emitting or double sided display device, thereby satisfying specific platform requirements.

#### *Allowable Subject Matter*

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Inoue, being the closest prior art, teaches away from forming the third conductive film (42) on a peripheral edge portion of the first conductive film (44) in at least paragraph 55. Inoue discloses that the reflective layer 44 (first conductive film) is etched away from the metal layer 42 (third conductive film) so the reflective material layer 44 (first conductive film) does not disturb contact between the metal layer 42 (third conductive film) and the first electrode 50 (which corresponds to element 80, i.e. the second conductive film).

Therefore, the prior art taken alone or in combination fails to disclose or motivate the third conductive film is formed on a peripheral edge portion of the first conductive film, in combination with the remaining limitations of the claim.



***Response to Arguments***

Applicant's arguments filed 06/02/2010 have been fully considered but they are not persuasive.

Regarding the first rejection presented for claim 2 on page 4 of the previous office action, Applicant's arguments are persuasive. Inoue does not explicitly disclose or motivate one skilled in the art to form the Mo layer under the electrode 44 so that the electrode 44 is wider than the Mo layer.

However, regarding the alternative rejection for claim 2 presented on page 5 of the previous office action, Applicant's arguments are not persuasive.

First, Applicant alleges that Inoue's electrode 42 (third conductive film) is not electrically connected to electrode 44 (first conductive film) and electrode 80 (second conductive film).

The Examiner directs Applicant to at least paragraphs 45 and 57 of Inoue, which discloses that after the electrodes 44 (first conductive film) and metal layer 42 (third conductive film) are patterned, the transparent conductive layer 80 (second conductive film) is sputtered so as to cover the whole substrate including 44 and 42. Since the transparent conductive layer 80 is sputtered directly on top of and covers both electrodes 44 and metal layer 42, the metal layer 42 (third conductive film) is in fact electrically connected to the electrodes 44 (first conductive film) and the transparent conductive layer 80 (second conductive film). The Examiner notes that if Inoue's electrodes 44, metal layer 42 and transparent conductive layer 80 were not all electrically connected to each other, Inoue's device would not properly operate as disclosed.

Regarding claim 23, Applicant argues one aspect recited in the claim provides forming a first insulating layer, a first conductive film and a second insulating layer sequentially, as shown in Figs. 20A to 22B.

The Examiner appreciates this clarification of the invention, however respectfully reminds Applicant that it is improper to import claim limitations from the specification. Specifically, the courts have held that it was improper to read a specific order of steps into method claims where, as a matter of logic or grammar, the language of the method claims did not impose a specific order on the performance of the method steps, and the specification did not directly or implicitly require a particular order. See MPEP 2111.01(II).

In summary, method claim 23 does not impose a specific order and Murakami discloses all the recited limitations therein. The Examiner notes that if method claim 23 did recite a specific order, then it would be independent and distinct from apparatus claim 2 and would be subject to a restriction requirement.

### ***Conclusion***

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however,

event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

/Peter Macchiarolo/  
Primary Examiner, Art Unit 2879  
(571) 272-2375